

## ABSTRACT OF DISCLOSURE

A method of handling data packets in a network device and an apparatus for handling data packets in a network device are disclosed. The method includes receiving an incoming data packet and the incoming data packet is parsed to obtain a portion of the incoming data packet. That portion is compared with rules stored in a rule table, where each rule specifies a set of actions. A match between the portion and a particular rule of the rules is selected and a particular set of actions, specified by that particular rule is executed. Each rule includes a mask, a selection flag and a validity check that are used in the comparison of the portion with each rule. The rules may be compared with the packet portion serially or in a parallel fashion and if more than one rule matches the portion, the highest priority is selected as the matching rule.